

**CLAIM(S)**

**What is claimed is:**

- 5           1.       A fired thick-film dielectric on copper foil, wherein the dielectric exhibits barium titanate grain sizes of at least 0.5 microns.
2.       The thick-film dielectric on copper foil of claim 1, wherein the dielectric has a thickness in the range of 10 to 60 microns.
- 10           3.       The thick-film dielectric on copper foil of claim 1, further comprising:  
                          an underprint layer disposed between the dielectric and the copper foil.
- 15           4.       The thick-film dielectric on copper foil of claim 1, wherein the Curie point of the dielectric is in the range of -35°C to 45°C.
- 20           5.       The thick-film dielectric on copper foil of claim 1, wherein the dielectric comprises barium titanate, zinc fluoride, lead germanate, and at least one of lithium carbonate and lithium fluoride.
- 25           6.       A capacitor, comprising:  
                          the thick-film dielectric on copper foil of claim 1, wherein the copper foil forms a first electrode; and  
                          a second electrode disposed over the dielectric.
- 30           7.       The capacitor of claim 6, wherein the second electrode comprises copper, cuprous oxide, and lead germanate.
8.       A dielectric powder, comprising:  
                          barium titanate powder;

a lithium source and at least one metal fluoride powder,  
wherein the metal fluoride powder includes a zinc fluoride powder;  
and  
lead germanate glass powder.

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9. The dielectric powder of claim 8, wherein the dielectric  
powder comprises 73-88% by weight of the barium titanate powder.

10. The dielectric powder of claim 9, wherein the dielectric  
10 powder comprises 1-5% by weight of a combination of the lithium source  
and the at least one metal fluoride powder.

11. The dielectric powder of claim 10, wherein the lithium source  
comprises at least one of lithium carbonate and lithium fluoride.

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12. The dielectric powder of claim 9, wherein the dielectric  
powder comprises 8-25% by weight of the lead germanate glass powder.

13. The dielectric powder of claim 8, further comprising:  
20 glass powder comprising at least one of barium, strontium,  
calcium, zinc, magnesium and manganese.

14. The dielectric powder of claim 8, further comprising:  
glass powder comprising at least one of silicon, zirconium,  
25 titanium and tin.

15. The dielectric powder of claim 8, further comprising:  
zirconia powder in an amount that is between 1/25 and 1/3 of  
the weight of the lead germanate glass powder.

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16. A screen-printing composition, comprising:  
the dielectric powder composition of any of claims 8 through  
15 dispersed in an organic vehicle; and

a solvent.

17. A method of making a capacitor, comprising:  
providing a metallic foil;  
5 forming a dielectric over the metallic foil using the dielectric  
powder of any of claims 8-15; and  
forming an electrode over the dielectric.
18. The method of claim 17, wherein the dielectric and the  
10 electrode are formed by a single firing step in a nitrogen environment.
19. The method of claim 17, wherein the foil is a copper foil.
20. The method of claim 19, wherein:  
15 the dielectric has a thickness in the range of 10 to 60  
microns; and  
the Curie point of the dielectric is in the range of -35°C to  
45°C.
- 20 21. The method of claim 17, wherein the electrode is formed  
from a powder comprising:  
copper powder;  
cuprous oxide powder; and  
lead germanate glass powder.
- 25 22. An innerlayer panel comprising the capacitor of claim 6.
23. A printed wiring board comprising the innerlayer panel of  
claim 22.

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